

REMARKS

Claims 1, 3-11, and 13-20 are pending. In this paper, claims 1, 9, and 15 have been amended to further clarify the differences between the invention and the cited references.

Reconsideration of the application is respectfully requested for the following reasons.

Claims 1, 3-5, and 19 were rejected under 35 USC § 103(a) for being obvious in view of Fukunaga and Hayashi taken in combination with common knowledge in the art. Applicants request the Examiner to withdraw this rejection for the following reasons.

According to one non-limiting embodiment, data is hidden in a quantization parameter or a level value of a block by modifying the quantization parameter or the level value depending upon whether remainders of the parameter divided by 2 are equal to the data to be hidden. (See, for example, Paragraph [66] of the specification). Claim 1 has been amended to emphasize these features.

The Fukunaga patent discloses a video encoder which receives error information from decoder. The error information includes a frame number corresponding to an error frame, and one or more blocks of the error frame. The error information is sent to a reference-picture modification unit 107, which replaces data in the received error frame with data from a previous frame. In addition to these features, Fukunaga discloses an end-information generator 109 which obtains a frame number of the error frame and passes this frame number to transmission unit 103. The transmission unit transmits the frame number with a coded frame to the decoder.

However, Fukunaga does not teach or suggest the features added by amendment to claim 1, i.e., performing a data hiding operation that involves embedding a number of bits of the error information into a frame currently being encoded, where the embedding is performed “by modifying at least one parameter of the frame currently being encoded depending upon whether remainders of the parameter divided by 2 are equal to data to be hidden.”

The Hayashi patent discloses encoding digital-watermark information in image data. During this encoding scheme, a data hiding operation is performed with involves embedding bits of error information into a currently encoded frame. However, Hayashi does not teach or suggest performing this embedding operation “by modifying at least one parameter of the frame currently being encoded depending upon whether remainders of the parameter divided by 2 are equal to data to be hidden.” Also, these features are not common knowledge to those skilled in the art.

Based on these differences, it is respectfully submitted that claim 1 is allowable over the cited combination. Withdrawal of the § 103 rejection and furtherance of claim 1 and its dependent claims to allowance is respectfully requested.

Claims 15-17 and 20 were rejected under 35 USC § 103(a) for being obvious in view of a Fukunaga-Hayashi combination. Applicants traverse this rejection on grounds that claim 15 has been amended to recite features similar to those that patentably distinguish claim 1 from the Fukunaga and Hayashi patents, i.e., as amended claim 15 recites a data hiding operation that involves embedding a number of bits of extracted error frame information into a frame currently

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being encoded, said embedding performed by “modifying at least one parameter of the frame currently being encoded depending upon whether remainders of the parameter divided by 2 are equal to data to be hidden.”

Claims 9-11 and 13 were rejected under 35 USC § 103(a) for being obvious in view of a Fukunaga-Khansari-Hayashi combination. Applicants traverse this rejection on grounds that claim 9 has been amended to recite features similar to those which patentably distinguish claims 1 and 15 from the Fukunaga and Hayashi patents, and on grounds that these features are not taught or suggested by the Khansari patent.

The Khansari patent was cited for disclosing a decoder which performs variable-length decoding. However, the Khansari patent does not teach or suggest performing a data hiding operation that includes embedding a number of bits of extracted error frame information into a frame currently being encoded, said embedding performed by “modifying at least one parameter of the frame currently being encoded depending upon whether remainders of the parameter divided by 2 are equal to data to be hidden.” Applicants submit that claim 9 and its dependent claims are allowable based on these differences.

Claims 5 and 6 were rejected for being obvious in view of a Fukunaga-Hayashi-Common Knowledge-Lin combination, claims 7 and 8 were rejected for being obvious in view of a Fukunaga-Hayashi-Common Knowledge-Bannon combination, claims 14 and 18 were rejected for being obvious in view of a Fukunaga-Hayashi-Bannon combination.

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In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and timely allowance of the application are respectfully requested.

To the extent necessary, a petition for an extension of time under 37 CFR § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

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